

REMARKS

Reconsideration of this application as amended is respectfully requested.

In the Office Action, claims 1, 3, 6-10, 19, 20, 22-27, 29-34, 36-41 and 78-81 were pending. Claims 1, 3, 6-10, 19, 20, 22-27, 29-34, 36-41 and 78-81 were rejected.

In this response, claims 6, 9, 22-24 and 29-31 have been canceled without prejudice. Claims 1, 3, 7, 10, 19, 34, 37-38, 40-41, and 78-81 have been amended. In addition, new claims 82-84 have been added. Thus, claims 1, 3, 7-8, 10, 19-20, 25-27, 32-34, 36-41, and 78-84 remain pending. No new matter has been added.

Claims 22-24 and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 1, 3, 6-10, 22-27, 34, 37-38, 40-41 and 78-81 are rejected under 35 U.S.C. 112, second paragraph. In view of the foregoing amendments, it is respectfully submitted that the rejections have been overcome.

Claims 1, 3, 6-9, 19-20, 22-27, 29-34, 36-40 and 78-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline et al., U.S. Patent No. 5,812,527 ("Kline"), in view of Wacawsky, U.S. Patent No. 6,449,255 ("Wacawsky"). Claims 10 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline et al., U.S. Patent No. 5,812,527 ("Kline"), in view of Henrion et al., U.S. Patent No. 6,469,982 ("Henrion").

In view of the foregoing amendments, it is respectfully submitted that the pending claims (e.g., claims 1, 3, 7-8, 10, 19-20, 25-27, 32-34, 36-41, and 78-84) include limitations that are not disclosed or suggested by the cited references.

Specifically, independent claim 1 recites as follows:

1. A network switch comprising:
an asynchronous mesh;

N ingress interfaces coupled to the asynchronous mesh, the N ingress interfaces having an ingress scheduler to receive data from external sources and to selectively schedule and asynchronously transmit the data across the asynchronous mesh according to a first schedule; and
N egress interfaces coupled to the asynchronous mesh, the N egress interfaces having an egress scheduler to receive data from the asynchronous mesh and to schedule and transmit the data to external destinations according to a second schedule different than the first schedule,
wherein the ingress scheduler performs scheduling and transmitting data across the asynchronous mesh independent of the egress scheduler performing scheduling and transmitting data to the external destinations,
wherein each of the N ingress interfaces includes N ingress buffers to temporarily store the data received from the external sources before being transmitted across the asynchronous mesh, each of the N ingress buffers corresponding to each of the N egress interfaces respectively,
wherein each of the N egress interfaces includes N egress buffers separated from the N ingress buffers to temporarily store the data received from each of the N ingress interfaces across the asynchronous mesh before being transmitted to the external destinations, each of the N egress buffers corresponding to each of the N ingress interfaces respectively,
wherein the ingress scheduler retrieves the data from each of the ingress buffers and transmits the retrieved data to a corresponding egress buffer of each of the egress interfaces according to the first schedule, and
wherein the egress scheduler retrieves the data from each of the egress buffers and transmits the retrieved data to the external destinations according to the second schedule independent of the first schedule.

(Emphasis added)

Independent claim 1 includes limitations that each of the ingress interfaces includes multiple ingress buffers for temporarily storing the data received from the external sources before being transmitted to the egress interfaces, where each of the ingress buffers corresponds to one of the egress interfaces. Each of the egress interfaces includes multiple egress buffers for storing the data received from the ingress interfaces before being transmitted to the external destinations, where each of the egress buffer corresponds to one of the ingress interfaces. The ingress buffers and the egress buffers are separate buffers and they are operated independently by the ingress interfaces and the egress interfaces respectively.

For example, if there are N ingress interfaces and M egress interfaces, each of the N ingress interfaces includes M ingress buffers and each of the M ingress buffers corresponds to each of the M egress interfaces. Similarly, each of the M egress interfaces includes N egress buffers and each of the N egress buffers corresponds to one of the N ingress interfaces. It is respectfully submitted that the above limitations are absent from the cited references.

Although Waclawsky discloses an input scheduler 16 and output scheduler 24, and an output queue 33, the output queue 33 is shared by the input scheduler 16 and output scheduler 24 (see, Fig. 1 of Waclawsky). There is no mention or suggestion within Waclawsky of ingress buffers accessed by an ingress scheduler and separate egress buffers accessed by an egress scheduler.

In addition, Waclawsky also fails to disclose or suggest that each of the ingress interfaces includes multiple ingress buffers for temporarily storing the data received from the external sources before being transmitted to the egress interfaces, where each of the ingress buffers corresponds to one of the egress interfaces. Each of the egress interfaces includes multiple egress buffers for storing the data received from the ingress interfaces before being transmitted to the external destinations, where each of the egress buffer corresponds to one of the ingress interfaces. The ingress buffers and the egress buffers are separate buffers and they are operated independently by the ingress interfaces and the egress interfaces respectively, which are recited in independent claim 1. None of the cited references discloses or suggests the limitations set forth above.

Further, there is no suggestion within the cited references to combine with each other. Even if they were combined, such a combination still lacks the limitations set forth above. Therefore, for the reasons discussed above, it is respectfully submitted that independent claim 1 is patentable over the cited references.

Similarly, independent claim 19 includes limitations similar to those recited in claim 1. Thus, for the reasons similar to those discussed above, independent claim 19 is patentable over the cited references.

Given that the rest of the claims depend from one of the above independent claims, at least for the reasons similar to those discussed above, it is respectfully submitted that the rest of the claims are patentable over the cited references.

Furthermore, as recited in claims 3, 7, and 78-84 for example, the present invention as claimed includes limitations that each of the ingress buffers of each ingress interface includes one or more queues. Each queue is used to store data of a distinctive class and each class of data is associated with a transmission priority when transmitted to an egress interface. Similarly, each of the egress buffers of each egress interface includes one or more queues. Each queue is used to store data of a distinctive class and each class of data is associated with a transmission priority when transmitted to an external destination. Further, a flow control signal associated with a particular queue (e.g., a particular class of data) may be fed back from an egress interface to an ingress interface to prevent the particular class of data associated with the particular queue from being transmitted from the ingress interface to the egress interface, while allow other classes of data (e.g., the classes that have lower priority) to be transmitted. These limitations are also absent from the cited references. Therefore, in addition to those applied to their respective independent claims, these claims are independently patentable over the cited references.

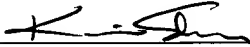
In view of the foregoing, Applicants respectfully submit the present application is now in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call the undersigned attorney at (408) 720-8300.

Please charge Deposit Account No. 02-2666 for any shortage of fees in connection with this response.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Date: 1/4/2005


Kevin G. Shao
Attorney for Applicant
Reg. No. 45,095

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025-1026
(408) 720-8300